



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/729,128	12/01/2000	Younes Achkire	A5369/T4060	4201

32588 7590 04/11/2003

APPLIED MATERIALS, INC.  
2881 SCOTT BLVD. M/S 2061  
SANTA CLARA, CA 95050

EXAMINER

MACARTHUR, SYLVIA

ART UNIT	PAPER NUMBER
----------	--------------

1763

DATE MAILED: 04/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/729,128

Applicant(s)

ACHKIRE ET AL.

Examiner

Sylvia R MacArthur

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 March 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Gregg et al (US 6,199,599)

Gregg teaches that a chemical delivery system to deliver chemicals to a semiconductor process tool. A bulk delivery system utilizing a large bulk canister to refill one of more process canisters 104A, 104B (the first and second vessels). CBV2 is the valve connecting the two vessels. A chemical outlet line 110 to provide chemical to a process tool such as a CVD tool. The purge gas input 111 (pressurized gas source) is connected to an inert gas line such as a He, Ni, or Ar line in order to create a flowing purge through the manifold. The liquid flush line (bulk material supply) 116 may be a source for a flush liquid such as solvents tetrahydrofuran (THF) or triglyme.

In Fig. 4A, vacuum supply valve (VGS) 10 functions to control the flow of gas. Vacuum source 14 may also be attached to exhaust line 13 which exits of exhaust. Vacuum source 14 may be connected to low pressure vent valve ("LPV", a pressure release valve) 60. The function of PLI 50 is to control the flow of chemical out of the manifold. Thus, pressurized gas from a source (not shown) is released by regulator 32 into line 31. In Fig. 4A, a vacuum source 14 is

Art Unit: 1763

connected to LPV 60 via line 15 and line 16. Check valve 33A is activated if the manifold pressure surpasses a preset level. A delivery pressure gauge 36 is tied into regulator 32 to monitor regulator pressure and pressure during all operations. Fig. 6A illustrates the first and second ports of vessels 1 and 2 (602 and 604 respectively)

3. Claims 1-14 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ferri, Jr. et al (USP 5,417,346)

Ferri teaches bulk sources 12a,12b. Each of the vessels (first and second vessels) 30 is provided with level sensors to detect and identify the level of chemical. A negative pressure is established in vessel 30. The PVVs 30 is pressurized through the use of a pressurized gas supply (not shown) connected to pressurized gas junction 160. Monitoring signals are provided by level sensors 32a and 34a, valve 28a is then closed to cease chemical intake into vessel 30a. In order to bring vessel 30a into a delivery-ready mode, it is then pressurized by opening valve 172, then opening valves 40a and 174a simultaneously.

During the periods of low or no demand, it is preferred that chemical is regularly recirculated back to the bulk sources to assure uniform chemical mixture throughout the system.

An automatic vacuum vent valve 156 is provided to vent pressurized gas properly from vessels 30.

Each of the vessels 30 is filled and empties in careful orchestration with one another. Low level sensor 36a provides a signal when the level of 30a become critically low. Once the chemical level in vessel 30a reaches its low level redundant sensor 38a, the vessel is refilled.

A computer (processor) is used to electronically monitor and regulate process. Col. 10 lines 4-63 discuss the various process control operations operated/monitored by the processor.

Art Unit: 1763

Fig. 5 illustrates the communication between the chambers and the ports.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R MacArthur whose telephone number is 703-306-5690. The examiner can normally be reached on M-F during the core hours of 8 a.m. and 2 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9630 for regular communications and 703-872-9630 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Sylvia R. MacArthur  
April 9, 2003

  
BENJAMIN L. UTECH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700